Letter from the Editors

Evan Noch, Temple University School of Medicine
Qurat-ul-ain Jelani, New York University School of Medicine
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Our Fall 2011 issue of Phi Psi is designed to motivate and inspire our members and physician-scientists-in-training by providing articles dedicated to career pathways, healthy lifestyles, and ways to stay focused to obtain our future goals. As our lives become evermore complicated by the thousands of directions in which we are forced to concentrate our attention, we thought that it would be useful to take a moment to step back and reflect on why it is we are training to do what we do and how we can all live our best lives while doing that.

This issue of Phi Psi begins with our Letter from the President, Ivayla Geneva, who discusses APSA’s recent achievement at obtaining 1,000 members, the successful APSA regional meetings held this fall across the country, and the upcoming APSA Annual Meeting to be held in Chicago, IL from April 27th-29th.

Our newsletter editor, Qurat-ul-ain Jelani, contributes an article, which details the continued disparities in male versus female career trajectories, the ability to obtain leadership positions, and the multitude of inequities in the academic medicine environment. Our member-at-large for the Social Sciences and Humanities, Adam Baim, discusses Social Sciences and Humanities (SSH) MD/PhD training programs, their importance to APSA as an organization, and ways to learn more about these fascinating alternative training options through various initiatives over the course of the year.

In our Physician-Scientist Spotlight, we conducted an interview with Dr. Bruce Beutler, MD, one of the three 2011 Nobel Laureates for Physiology or Medicine. In this interview, Dr. Beutler shares fascinating details about his past research and training, his current scientific pursuits, and what he feels it takes to win the coveted prize. Further inspiration in this issue comes from an article by Sean Smirnov, a member of the Public Relations Committee, in which he relates some motivational thoughts about MD/PhD training and our potential in the medical workforce from the Dean of the Graduate School of Biomedical Sciences at the University of Massachusetts Medical School, Dr. Tony Carruthers.

Our APSA Membership Vice-Chair, Eli Levin, gives us a healthy dose of healthcare education and shares the thoughts of several faculty members who

From the President

Ivayla Geneva, State University of New York-Upstate

Dear Friends and Colleagues,

I would like to begin by thanking you all for helping APSA reach a major milestone – in mid-November our ambitious goal of expanding our membership to 1,000 members became a reality!

So thank you for being part of the APSA family and for supporting APSA’s mission. You are awesome!

Earlier this fall, I had the great pleasure to meet with many of you at APSA’s Regional Meetings, which brought together a total of over 500 trainees and faculty. I would like to take this opportunity to commend the great work of the organizing committee leaders and all of the volunteers who made the APSA Regional Meetings such grand events! I was also very pleased to see many of the conference attendees apply for APSA leadership positions during our mid-year recruitment period.

(See President on Page 8)
Putting the “Health” Back in Health Care Education
Eli Levin, PhD, University of Medicine and Dentistry of New Jersey

It’s 10pm on a Tuesday and you just finished reviewing the day’s powerpoint slides. You attended lecture from 8am to 5pm, strategized with classmates about the upcoming exam and, after grabbing a couple Big Macs for dinner, studied until this moment. Now you just want to watch an episode or two of Scrubs on Netflix and pass out for the night, but a recurrent thought sneaks up on you. When you woke up this morning, you told yourself that today would be different; you would make yourself a healthy meal or two and maybe even visit the gym that you pay $40 each month for the privilege of not attending. However, none of that happened, and you begin to wonder if you will ever find the time to take better care of yourself.

You may delude yourself that your schedule will free up after the exam… or Step 1… your thesis proposal… defense… third-year clinicals… residency applications… internship… but the fact is that there will probably always be intense demands on your time. Enjoying the rewards of two exciting careers is why you decided to become a physician-scientist, but odds are that you never seriously considered how you would stay healthy while caring for patients and writing journal articles. Do not despair! By trying just a few of the following suggestions, battle-tested by clinician-scientist trainees and faculty just as busy as you are, you will still have the time you need to see patients and run experiments. However, you should find yourself with more energy and a better sense of well-being… and be awarded that elusive R01 without having to suffer an MI in the process!

“I do my best work in the morning,” says Dr. Robert Nagele, Professor of Medicine at the New Jersey Institute for Successful Aging. “I get up around 5am, so by the time I finish grant-writing at 10 or 11pm, I just want to go to sleep. But if I force myself to go to the gym before breakfast, I get the exercise in, and find that I have more energy during the day.” Get up early enough as it is? Take a close look at your daily schedule; the odds are that there is a free block of time being underutilized. During MS I and II, most students get an entire hour for lunch; why not exercise first before eating that sandwich? Research years are typically less regimented, but experiments often provide built-in down time. Will your specimens be in primary for the next hour? You could spend that time in the gym (but please remember to bring your timer).

So you have found your block of time, but how can you best take advantage of it? One seemingly obvious but frequently underutilized resource is the school gym. While some school gyms are hardly state-of-the-art, their convenient location ensures that a 20- or 30-minute block is all you need to hit the weight room or treadmill. Besides, their cost is usually built into tuition, which is always good for a medical student budget. Never had a regular workout routine before? Ask a friendly staff member, who likely has a degree in exercise science and may already know a routine that can fit into your schedule.

(See “Health” on Page 6)

Book Review: Changing the Culture of Academic Medicine — Perspectives of Women Faculty, by Linda H. Pololi
Qurat-ul-ain Jelani, New York University School Of Medicine

In the field of medicine, the “glass-ceiling effect” still exists!

In cohort studies conducted by Lynn Nemecker, Ph.D. around the year 2000 and published in the New England Journal of Medicine, the rates of advancement to the ranks of assistant, associate, and full professor for all US medical graduates and for all members of US medical school faculties from 1979-1993 and 1979-1997, respectively, were studied. The conclusion from that study has been replicated in almost all subsequent studies; although women were more likely than men to pursue an academic career, the number of women who advanced to the ranks of associate and full professor was significantly lower than expected. Another study showed that 59 percent of women achieve the rank of associate or full professor after roughly 11 years on the medical school faculty while for men, it was 83 percent. Other studies show that women are over-represented in the ranks of junior faculty. A study conducted by the Mongan Institute for Health Policy pointed out the disparity or gender gap in pay, even though female physicians were as qualified and accomplished as their male counterparts. The reasons for the lack of women in leadership positions, their slow career advancements, and disparities in compensation have not been clearly outlined — fewer mentoring opportunities, family responsibilities, attri-

(See Book Review on Page 5)
In this newsletter issue, we conducted a fascinating and informative interview with Bruce Beutler, MD, who discusses his research, training, and his recent achievement as one of the awardees of the 2011 Nobel Prize in Physiology or Medicine. Dr. Beutler also shares a bit of advice for physician-scientists-in-training and several ways to stay inspired and focused on our own career goals.

Evan Noch: What was the vision you had of your future career during medical school?

Dr. Bruce Beutler: I was someone who went to medical school wanting to be in research. I wanted that before I went, and I wanted it even more after I had a chance to see clinical medicine. I could tell pretty quickly it wasn’t for me, but I was interested in biomedical problems. It was very useful to me, therefore, to go to medical school.

EN: Did you have any vision of what your career 30 years down the line would look like?

BB: Never that I would receive the Nobel Prize. I certainly thought that I wanted to be a basic scientist, so yes, I’m very close to what I wanted. I talked to a friend of mine from high school not long ago, and he said that I was the only one he knew in high school who wound up doing exactly what he said he would do.

EN: What motivates you most in your career?

BB: I think the real pleasure about what I do now is partly problem-solving. You have a phenotype, and you want to find what causes it; it comes down to the exact nucleotide chain that is responsible, and we can do that, and that’s very satisfying. The other element is just discovery. Coming to work, one of the post-docs may tell you about a new phenotype, a new mouse that’s never been seen before. That’s also exciting. Problem-solving and discovery—they motivate me.

EN: Does the purpose of your studies in terms of its outcomes for patients play a role in your everyday ideas of where you want your research to go?

BB: To some extent. You do choose phenotypes that are going to be relevant to disease. That is something that I certainly think about quite a lot. But as far as looking at the discovery and asking what’s happened today in terms of TLR4 blockade and what it does to sepsis, that’s something that I don’t really think about. I think that’s in the realm of other people more on the applied side.

EN: Of what discovery are you most proud?

BB: That would certainly be the discovery for which I was given the Nobel Prize, which is finding the basis of microbe-sensing in mammals.

EN: What work are you most excited about at the moment?

BB: Well, we have a lot of such phenotypes, and I would say that collectively, they’re very interesting. The thing that has me most excited right now is the chance to build a center for the genetics of host defense. I’m at a stage of my career where I would like to assemble faculty rather than merely my own post-docs to work on my own problems. It would be nice if I could bring together geneticists to work on host defense using classical methods, maybe with different species—drosophila, zebrafish, worm people, plant people, because whenever we find a new resistance mechanism, it’s very interesting to the others. I think that kind of assembly of people would have a lot of internal synergy and would go very far, so that’s what I’m working to do now.

EN: Your early work on TNF led to the development of a host of compounds that treat various autoimmune and inflammatory syndromes. Did you envision this type of outcome from your studies?

BB: Yes definitely! As soon as I realized that TNF had inflammatory characteristics, I thought that the way to go would be to block it, to see what diseases that might help. That’s the good perspective that being an MD brings to your work. We did develop that with a practical goal in mind. I thought antibodies would be good, but maybe there would be a problem seen with humanized antibodies in terms of generating an immune response. Therefore, it would be better if we connected the receptor directly to another endogenous molecule, and that worked extremely well. It’s one of those things that really worked fantastically! But I don’t do that very often.

EN: Does that engage your inclination with problem-solving?

BB: Probably, yeah. What I did not want to do was to get involved with clinical trials and actually look at humans with rheumatoid arthritis or Crohn’s Disease and try to demonstrate efficacy. That’s just not my cup of tea.

EN: TNF has long been known to have seemingly antagonistic functions—both leading to immune cell activation and apoptosis or necrosis in other cell types. What do you think is the evolutionary advantage of having such a bifunctional molecule?

BB: I would guess that in the course of inflammation, sometimes it’s advantageous to cause cell death. You want to do that to limit the growth of the pathogens in certain cases, certainly if they’re viruses, maybe if it’s an obligate intracellular bacterium as well. It helps just to kill the cell, and causing a lot of cell death locally may help to limit the spread of infection. I’m not sure that these are really antagonistic in terms of what evolution selected for.

EN: Do you think that it is possible to...
Trainees in the Social Sciences and Humanities Find a Home in APSA
Adam Baim, MD/PhD Trainee, University of Chicago

The past two years have seen an influx of MD/PhD trainees from the social sciences and humanities (SSH) into the ranks of APSA’s membership.

This trend is a curious one, at first glance. Research in SSH fields – such as anthropology, economics, history, philosophy, or sociology – bears little resemblance to the research done by most MD/PhDs. The contribution of SSH disciplines to medicine is also unique: while the natural sciences produce new tools for patient care, SSH fields typically explore how health services are delivered and how medicine fits into society more generally. As researchers and teachers we address issues of critical importance, including health disparities and global health, patterns of knowledge dissemination and implementation in medicine, and the doctor-patient relationship, to name only a few.

But in fact, the entry of SSH trainees into APSA makes perfect sense.

That we SSH trainees have found a home in APSA illustrates two important points. For one, it testifies to the openness and flexibility of this organization: although its members come from many different disciplines, APSA recognizes that we share the same needs for advocacy, mentorship, and community-building. Second, and more fundamentally, the entry of SSH trainees into APSA foregrounds the commonalities that unite all trainees who aspire to combine research with clinical practice. The challenges of dual-degree training and hybrid careers are challenges that affect us all, in spite of the differences that separate our areas of scholarship. Shared, too, is our value as individuals who push the boundaries of medical knowledge. Positioned between research and the clinic, we represent fields of inquiry that are crucially important to the future of health care.

The history of SSH trainees in APSA reached a milestone last year with the fusion of APSA’s 7th Annual Meeting with the National Conference for Physician-Scholars in the Social Sciences and Humanities, a meeting of SSH trainees that has occurred biennially since 2005. It was my privilege to co-organize this conference with Jennifer Baldwin (University of Illinois-Urbana Champaign), who joins me in thanking APSA for its longstanding support. We are particularly grateful to last year’s Annual Meeting Committee for helping us to make this project a success.

Over 60 trainees and faculty came to Chicago to attend the joint conference. Attendees participated in SSH-specific events on April 16-17, while also joining in for much of the APSA-wide programming. SSH keynote addresses were delivered by Barry Saunders, MD, PhD (UNC-Chapel Hill), Bradley Lewis, MD, PhD (NYU-Gallatin), and Peter Angelos, MD, PhD (University of Chicago). Other events included a panel of faculty members who spoke about their experiences as physician-scholars, a series of discussion groups focused on career issues, and research talks by twenty-four SSH trainees.

The joint conference facilitated numerous exchanges between SSH attendees and the broader APSA community. SSH trainees and faculty learned a great deal from the APSA-wide events at the Annual Meeting, and many have joined APSA after seeing the range of resources it offers. Attendees were particularly impressed by APSA’s advocacy efforts, which include a campaign to address disparate enforcement of USMLE timetables between MD/PhDs in the natural sciences and SSH disciplines. In turn, many non-SSH Annual Meeting attendees – and attendees of the AAP and ASCI conferences – were exposed for the first time to SSH projects. The joint conference allowed us to introduce what SSH research looks like, and to demonstrate how our investigations contribute to health care.

SSH trainees form a tightly-knit network; although we may be few in number, we have long found strength in mentoring and colleagueship. Meetings have held a special place for us, as opportunities to converge from our various institutions and refresh these ties. I am pleased that my SSH colleagues were able to share this experience with APSA, an organization that enriches our community with new resources and deeper connections to the world of physician-scientists.
tion, lack of necessary skills and lack of ambition for leadership have been cited in this regard.

In a book that has been well received by many, "Changing the Culture of Academic Medicine, Perspectives of Women Faculty," Linda H. Pololi, a senior scientist at Brandeis University, has addressed the issues facing women in academic medicine by interviewing medical faculty. She begins with a brief history of women in academic medicine, describing how the number of female faculty rose to a position of significance over the last few decades while simultaneously getting stalled when it came to obtaining leadership positions. The book delves into the factors that motivated female faculty to pursue medicine as a career and finally digs into a very detailed and critical description of how and why the academic environment ultimately disappoints and discourages the same faculty. The interviewees cite issues with trust, the need for control, dishonesty, and the experience of being marginalized. In an effort to highlight how deeply rooted discrimination against women runs, the writer recalls a study from the University of Wisconsin, Milwaukee. The researchers involved used a curriculum vitae from a female scientist but changed the name to a male person on half of the CVs; surprisingly both men and women reviewers thought that the male candidate had better credentials and were more likely to hire the former. She also mentions that women are more likely to get less favorable letters of recommendation compared to men, conclusions derived from the results of another research study. In a study originating in Sweden, investigators found that women needed to be two and a half times as productive as men to be considered equally competent.

This book is a very sobering and unflattering account of the many hurdles – subtle though they may be – that women need to overcome before they are considered part of the pack. Faculty speak of ideals that ultimately give way to harsh realities on the ground in the form of internal resistance and ridicule; they explain what they envision is the best course for training and mentoring young blood; they elaborate on how patient care can sometimes suffer from "corporate greed"; some of them rue the fact that one has to have power to be heard and accepted. These stories never seem to end.

Linda H Pololi will leave you with many questions as she left me. Is this going to change? Would I face the same obstacles? If yes, how do I tackle all of this? This book also has the potential to erode into your trust of the system. The reason why I would strongly suggest reading this book is because of the insight that it provides into our future; we would be in the same shoes (hopefully) one day and knowing there were others who went through the same would make dealing somehow balance their physician-scientist careers and their personal lives, all while ensuring that they have a few free minutes each day to exercise or go to the gym. We can all use a bit of advice to stay healthy, and especially as the holidays approach, a good plan to eat well, too!

This has thus far been a very exciting and productive year for APSA, and there are still many excellent events and programs to come. We thank you for staying connected to APSA through our newsletter and hope that this issue inspires you in your own careers and lives and that it motivates you to become even more involved in our organization! We are always looking for new ideas and stories to discuss in our newsletters and will continue to seek input from the APSA leadership as well as its members to enhance the quality of our publication. Please feel free to contact Evan Noch at evan.noch@physicianscientists.org if you have any suggestions for the newsletter or any ways that we can help you.

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**Book Review (cont. from page 2)**

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Healthy Food (cont. from page 2)

What if you cannot even find a free 30 minutes for exercise? “I never take the elevator when I can avoid it,” confides Josh Atkins, MD, PhD, Assistant Professor of Anesthesiology and Critical Care at the Hospital of the University of Pennsylvania. Between his clinical obligations, furthering his research on jet ventilation, and raising a family, Dr. Atkins frequently finds himself unable to find dedicated time for exercise. However, by walking countless flights of stairs each day, Dr. Atkins stays in shape and typically arrives at his destination faster than colleagues who wait for the elevator.

Obviously, a physician-scientist’s free time is limited, and exercise might appear to be in conflict with other leisure activities, like spending time with a loved one. But need the two be mutually exclusive? Dr. Nagele takes advantage of the warm weather to exercise with his wife, Kathy. “Even during weekends at the beach, I often need to spend most of the day writing on my laptop. But I always manage to get out for an hour or two and walk or bike with Kathy,” says Nagele.

Of course, exercise is only one side of the equation; a healthy lifestyle must involve eating well. We tend to know what goes into a healthy meal (more lean protein, vegetables, and fruit, less fat- especially saturated or trans, simple sugars, and fiberless starches) but may feel like we lack the time to prepare such a meal. Not so! A healthy meal need not require much effort, and those lacking culinary inspiration can easily find help online. Websites like eatingwell.com and wholeliving.com, provide scores of healthy recipes that can be completed in 30 minutes or less, complete with nutritional information. Don’t have half an hour to make a meal every day? You can double the recipe to make leftovers for another night, or to bring into school for lunch. Most supermarkets have a variety of healthy frozen dinners and some of them are even tasty, like the eastern-themed Trader Joe’s dinners (Disclaimer: aforementioned meals may not be deemed tasty by all APSA readers). On an away rotation without access to a freezer? Even canned foods, especially chili and soups, can be relatively healthy, and are quickly improved by cutting in a tomato or pepper. Stuck in the hospital? Almost all hospital cafeterias have salad bars, and a growing number list nutritional information for their entrees and sides.

Healthy food can even be purchased at some “fast food” establishments. While Jared and saturation advertising ensure that we all know about Subway’s “seven subs with six grams of fat or less,” other chains including Panera Bread and Chipotle have been offering apples, whole-grains, and hormone-free meat, for quite some time. Even traditional fast food establishments have been attempting to shape up; McDonald’s now has salads with low-fat dressing, snack wraps for <300 calories, and even a yogurt-and-granola parfait dessert. Just make sure to read the fine print; nutrition information is available by request in restaurants and on websites, and that iceberg lettuce salad with croutons and creamy ranch dressing might not be as healthy as you think. So what should you be looking for in a meal? Regardless of selection, you cannot go wrong by glancing at the total number of calories and fat calories (which should be based on your own specific nutritional requirements for your age, body type, and goals), as well as the ingredient list (the more vegetables and fruits of different colors, the better).

So you have managed to find the time and now most of your meals are healthy ones. What benefits can you expect to see? We already know about the host of diseases and conditions that can be avoided or mitigated by regular exercise, healthy eating, and maintaining an appropriate weight, but the benefits do not end there. Most gym-goers see an increase in stamina and well-being, attributes which can make for more productive studying and lower stress while doing so. Healthy eating has also been shown to improve energy and cognition (not to mention avoidance of the dreaded “food coma”). Moreover, many benefits occur sooner rather than later. “I can see a physiologic difference within a week of starting to exercise after a long break,” claims Dr. Nagele. “My blood pressure drops at least 20-40 points and, if I don’t reduce my prescriptions, I actually experience episodes of hypotension.” So why wait? Grab an apple and head to the gym. Your body will thank you, and you may even do a little better on that exam!
target the TNF pathway in cancer to induce apoptosis while silencing its pro-inflammatory effects?

BB: Probably so. One might imagine that all of this is at the post-receptor level, and it might be possible to pharmacologically block signaling induced by TNF, some aspects of signaling, while preserving others. That might be helpful. We know anatomically, with isolated limb perfusion, TNF has been used in cancer, and it works fairly well for melanomas, for example, that are invasive but are isolated within one limb. I think there is probably more to pursue there.

EN: In the hospital, we see sepsis in many of our patients and continue to have few therapies in our arsenal, and as you mentioned, we often start antibiotic treatment once the “action is over?” Why do you think that inhibitors of the inflammatory cascade leading to sepsis, such as TLR4 inhibitors, have not been effective or translated as new targeted therapies?

BB: They may not be the very best inhibitors that there will ever be. In other words, I think that there’s a ways to go in designing things that have very good pharmacodynamics and can really get to where they need to be quickly and are cleared slowly. It also may be that it’s simply too late in the studies with the admission criteria as they were because timing is very important. If TLR4 has been triggered all over the body and there’s a lot of damage going on, then it just may be too far downstream to intervene with a TLR4 inhibitor. On the other hand, I do think that early intervention probably has a lot of good to do with rapid selection of the patients, such as people with infection of very recent onset. Let’s say someone has just had a perforated bowel and you know that on the operating table, and right there, you can infuse a TLR4 inhibitor or even something more broad like a Myd88 inhibitor. I find it hard to believe that that wouldn’t be beneficial if you could maintain good control with antibiotics.

EN: How does the body balance TLR activation in response to infection and over-activation leading to auto-immunity?

BB: I think of the TLRs as something that evolved to go with small inocula and typically manage infections on a very small scale. We’re talking about a few hundred or a few thousand microbes in a tiny area of tissue. That’s where strong TLR4 activation is beneficial. You need to get flux of lymphocytes for a local cytokine response. There are mechanisms that suppress the TLR response at a distance. If those are not functioning, I guess one can get into trouble with autoimmunity. It has best been shown that TLRs are involved with lupus and with a forward-feedback loop, probably with TLR7. One has to wonder what is the fundamental problem there. It’s probably not usually like in the bxsb mouse that you have an extra dose of the TLR7 gene because of a duplication event. It might be that there is a propensity to release DNA or a problem with getting rid of the DNA, so you wind up with this expansion of certain B cell clones that are auto-reactive.

EN: How do you personally balance your work and life?

BB: My work really is my life. It always has come first for me. I really enjoy it. Of course, I have to sleep, and I have to interact with other people, but that’s never really been a problem for me. I like to work very hard. I like to get a lot done.

EN: How does one win a Nobel Prize?

BB: Definitely, I suggest that people do not set out with the goal of winning the Nobel Prize. I certainly didn’t. Always since I was a small child, I had heard of this glorious prize, and I was very happy when I won, but it wasn’t my motivation. I didn’t get up each day and say, “Now how am I going to win the Nobel Prize?” Nobody should do that because the great majority of them will just wind up being miserable. If I have to say what were the things that led me to do it, one was having a father who really supported my interest in science at an early age and gave me an early introduction to working in the laboratory with someone I could always talk about science with. That was a great help to me. Another thing was that if I credit myself with any particular skill, I have a good sense of scientific taste, and I know what are the important problems. I set myself up for that. That’s something I would advise for people. First of all, decide what really is important, important to you, and what is generally perceived as an important problem or question to study. And then finally, you have to work very hard. Nothing comes of nothing, and that’s the main advice I’d have for physician-scientists-in-training. Don’t pay attention to people who talk about the need for a balanced life, and don’t think you’re going to get very far working 8-hour days and 5 days a week. It just won’t happen. You should really love what you’re doing, and you should be very devoted to it.

EN: Does science ever stop for a Nobel laureate?

BB: It hasn’t so far, but I think it will one day. I do think that people should realize when each of us is past his prime. You have to have a little bit of self-awareness because some people do go on longer than they’re useful. That hasn’t happened to me yet. I think I have another 20 years in front of me, but at some point, I’ll just become a bit more of a spectator than a doer.

EN: What does translational research mean to you?

BB: I first began hearing that term maybe about 5-10 years ago. To me, it was sort of another word for applied research, maybe on the very early side. That is not what I usually think of myself as doing. I have always felt I was more on the basic side of things, but maybe, that happened with some of the work that I have done, like with the anti-TNF therapy. That clearly is translational.

EN: What is the future of translational research?

BB: I think there will be more and more and more of it. It’s not something that’s likely to go away because the basic research discoveries have been so abundant, they’ve created so many opportunities. Definitely, it’s going to go on that way.
President’s (cont. from page 2)

Moving forward, I would like to draw your attention to the upcoming APSA Annual Meeting from April 27th-29th in Chicago, IL, which once again will be held in conjunction with the American Society for Clinical Investigation (ASCI) and the Association of American Physicians (AAP). The abstract submission is now open and so is the competition for the APSA-sponsored travel awards. I urge you to please make sure you get your abstract in prior to the deadline on January 6th. The APSA Annual Meeting is our biggest event for the year, with innumerable opportunities for you to present your research, listen to world-renowned speakers, interact with hundreds of physician-scientist mentors, to name but a few. So don’t wait – submit your abstract at the link here.

And if you are looking for more ways to further engage your school with APSA, here are a couple of options to consider. You could arrange for your school to become an Institutional Member of APSA, thus opening membership to a larger number of trainees at your school (more information can be found here), and you could encourage research-friendly residency programs at your school to participate in the Residency Luncheon during the APSA Annual Meeting (if interested please contact APSA’s Annual Meeting Committee Vice-Chair for more information at su-san.mcclory@physicianscientists.org).

In conclusion, I would like to encourage you once again to talk to APSA’s Executive Council members and myself in particular – we would love to hear your comments and suggestions and to answer any questions you may have. Therefore, don’t ever hesitate to contact me over email (ivayla.geneva@physicianscientists.org), schedule a phone call, or suggest an in-person meeting. I encourage you to friend me on Facebook and join my LinkedIn network, both of which offer excellent platforms for interaction and sharing of information.

Thank you for being part of APSA! Together we can do anything! ■

APSA RULES!
Alex and Alyssa at the 4th APSA South Regional Meeting in Galveston, Texas (November 5th, 2011)

What the Future Holds for Us—From the Horse’s Mouth!
Sean Smirnov, University of Massachusetts Medical School

Trying to determine what the future holds for physician-scientists, I had the opportunity to interview Professor Tony Carruthers, PhD, the Dean of the Graduate School of biomedical Sciences at the University of Massachusetts Medical School. To relieve the pressure, let me end the suspense: a very bright future awaits MD/PhD graduates!

According to the Dean, as advances in biological science make it harder for the rigor of the science curriculum in medical school to keep pace, the demand for physician-scientists with profound research training will grow. Population-oriented research – driven by quality-improvement efforts, a growing need for successful clinical research, and increased access to statistical data due to the implementation of electronic medical record systems would significantly contribute to this demand for MD/PhD trainees capable of combining clinical knowledge and skills with refined knowledge and expertise in scientific methodology. “At University of Massachusetts, we recognize the importance of physician-scientists much more than we did 20 years ago,” the Dean said.

According to statistics provided by the NIH, the vast majority of MD/PhD program graduates (in the order of 80-90%) pursue residencies in some medical specialty. As the healthcare delivery system increasingly shifts to the academic medical centers, increased patient care responsibilities prevent many physicians from entering research. Interestingly, despite the trends for MD graduates, more than 80% of all MD/PhD graduates eventually find their way to biomedical research, whether within academic medical centers, the NIH, or private industry. “Fortunately, more residency programs offer research-oriented curricula, thus making it easier for physicians-scientists to launch their research careers,” Dr. Carruthers told me.

The story does not end there — once the “proper set of tools is developed” in the course of MD/PhD training, the opportunities before MD/PhD graduates are immense. In recent years, more MD/PhD students pursued careers where they would apply their expertise in the areas outside of traditional laboratory research, such as patent law, consulting, policy, and science journalism. “Bridging between physicians on the medical side and lawyers on the legal side, institutionally-minded MD/PhDs have an increased capacity for developing successful health policy measures and overseeing various committees,” Dr. Carruthers said. Trained to tackle complex problems and uniquely equipped with an understanding of the clinical implementations of medical advancements, MD/PhD graduates serve as experts for pharmaceutical companies, managers of science processes and science consultants.

I left Dean Carruthers’s office an hour later, truly inspired and with broadened horizons. Never again will I look at the lab bench in the same way! ■
Glimpses from the APSA Southeast Regional Meeting, Emory University, Atlanta, GA (September 17th, 2011)

Glimpses from the 5th APSA Northeast Regional Meeting, Philadelphia, PA (November 19th, 2011)

Below: Dr. Allan Brasier, (key note speaker at the APSA South Regional Meeting) with Alyssa Baker

SAVE THE DATE FOR 2012!

8th Annual APSA Meeting
April 27-29, 2012
Chicago, Illinois